



CLAIMS

We claim:

A computer-implemented method for stylizing data comprising:

Obtaining a domain object comprising an object representation of data

stored in a database for a domain entity;

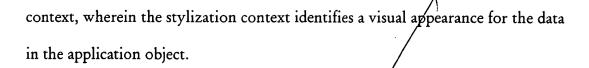
obtaining an application object comprising an object representation of the data in the domain object that is relevant for a particular computer application; and obtaining a presentation object comprising an object representation that encapsulates a visual appearance of the data in the application object.

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- 2. The method of claim 1 wherein the domain object contains all information about the domain entity that the domain object represents.
- 3. The method of claim 1 further comprising a stylization agent object obtaining the application object for the domain object based on a stylization context, wherein the stylization context identifies only that data relevant for the particular computer application.
- 4. The method of claim 1 wherein the application object further20 comprises business logic that provides functionality for the particular application.
 - 5. The method of claim 1 further comprising a stylization agent object obtaining the presentation object for the application object based on a stylization

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- 6. The method of claim 1 further comprising obtaining a stylizer object, wherein the stylizer object comprises:
 - a data object selected from a group comprising the domain object and application object;
 - a stylization context object, wherein the stylization context object comprises a stylization context;
- 10 a stylization agent;
 - a mapping of the stylization agent to a paired index of data objects and stylization context objects; and
 - a stylize method that invokes an appropriate stylization agent based on the mapping.
 - 7. The method of claim 6 wherein the paired index is a two-dimensional array of stylization agents indexed by a data object class and stylization context.
- 20 8. The method of claim 1 further comprising caching the application object.
 - 9. The method of claim 1 further comprising caching the presentation

object.

10. The method of claim 1 wherein the domain entity is a mechanical domain entity.

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- 11. The method of claim 1 wherein the domain entity is an architecture, engineering and construction (AEC) domain entity.
- 12. The method of claim 1 wherein the domain entity is a geographic information system (GIS) domain entity.
 - 13. An apparatus for stylizing data in an object-oriented computer system comprising:

an object-oriented/computer system having a memory and a data storage device coupled thereto;

a domain object stored in the memory of the computer system, the domain object comprising an object representation of data stored in a database for a domain entity;

an application object stored in the memory of the computer system, the application object comprising an object representation of the data in the domain object that is relevant for a particular computer application; and

a presentation object stored in the memory of the computer system, the presentation object comprising an object representation that encapsulates a visual





appearance of the data in the application object.

14. The apparatus of claim 13/wherein the domain object contains all information about the domain entity that the domain object represents.

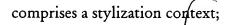
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15. The apparatus of claim 13 further comprising a stylization agent object configured to obtain the application object for the domain object based on a stylization context, wherein the stylization context identifies only that data relevant for the particular computer application.

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- 16. The apparatus of claim 13 wherein the application object further comprises business logic that provides functionality for the particular application.
- 17. The apparatus of claim 13 further comprising a stylization agent
 15 object configured to obtain the presentation object for an application object based
 on a stylization context, wherein the stylization context identifies a visual
 appearance for the data in the application object.
- 18. The apparatus of claim 17 further comprising a stylizer object,
 20 wherein the stylizer object comprises:
 - a domain object selected from a group comprising the domain object and application object;

a stylization context object, wherein the stylization context object



a stylization agent;

a mapping of the stylization agent to a paired index of data objects and stylization context objects; and

- a stylize method that invokes an appropriate stylization agent based on the mapping.
- 19. The apparatus of claim 18 wherein the paired index is a two-dimensional array of stylization agents indexed by a data object class and stylization context.
 - 20. The apparatus of claim 13 wherein the application object is stored in a cache of the computer system.
- 15 21. The apparatus of claim 13 wherein the presentation object is stored in a cache of the computer system.
 - 22. The apparatus of claim 13 wherein the domain entity is a mechanical domain entity.
 - 23. The apparatus of claim 13 wherein the domain entity is an architecture, engineering and construction (AEC) domain entity.

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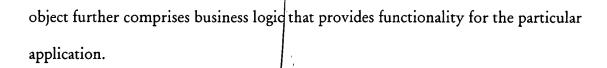
- 24. The apparatus of claim 13 wherein the domain entity is a geographic information system (GIS) domain entity.
- 25. An article of manufacture comprising a program storage medium

 5 readable by a computer and embodying one or more instructions executable by the computer to perform a method for stylizing data in an object-oriented computer system, the method comprising:

obtaining a domain object comprising an object representation of data stored in a database for a domain entity;

obtaining an application object comprising an object representation of the data in the domain object that is relevant for a particular computer application; and obtaining a presentation object comprising an object representation that encapsulates a visual appearance of the data in the application object.

- 26. The article of manufacture of claim 25 wherein the domain object contains all information about the domain entity that the domain object represents.
- 27. The article of manufacture of claim 25 wherein a stylization agent object obtains the application object for the domain object, wherein the stylization context identifies contains only that data relevant for the particular computer application.
 - 28. The article of manufacture of claim 25 wherein the application



- 29. The article of manufacture of claim 25 wherein a stylization agent object obtains the presentation object for the application object based on a stylization context, wherein the stylization context identifies a visual appearance for the data in the application object.
- 30. The article of manufacture of claim 29, the method further comprising obtaining a stylizer object, wherein the stylizer object comprises:

a domain object selected from a group comprising the domain object and application object;

a stylization context object, wherein the stylization context object comprises a stylization context;

a stylization agent;

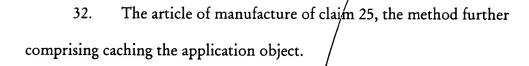
a mapping of the stylization agent to a paired index of data objects and stylization context objects; and

a stylize method that invokes an appropriate stylization agent based on the mapping.

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31. The article of manufacture of claim 30 wherein the paired index is a two-dimensional array of stylization agents indexed by a data object class and stylization context.



- 5 33. The article of manufacture of claim 25, the method further comprising caching the presentation object.
 - 34. The article of manufacture of claim 25 wherein the domain entity is a mechanical domain entity.
 - 35. The article of manufacture of claim 25 wherein the domain entity is an architecture, engineering and construction (AEC) domain entity.
- 36. The article of manufacture of claim 25 wherein the domain entity is a geographic information system (GIS) domain entity.